BACKGROUND FOR MACT STANDARDS DEVELOPMENT SURVEY

The purpose of this attachment is to provide the respondent with additional detail on the relevant requirements of the Clean Air Act and to provide explanations, where appropriate, for the purpose and objectives of individual survey sections or questions. A list of acronyms and unit abbreviations also is provided.

Summary of Clean Air Act Requirements

This survey was developed by the U. S. Environmental Protection Agency's (EPA's) Office of Air Quality Planning and Standards Emission Standards Division (OAQPS/ESD) to help EPA meet its obligations under the Clean Air Act Amendments of 1990. Specifically, the Clean Air Act Amendments require EPA to develop regulations under Section 112(d) to limit emissions of hazardous air pollutants (HAP's) from major and area sources of emissions. Section 112(a) defines a major source as "any stationary source or group of stationary sources located within a contiguous area and under common control that emits or has the potential to emit, considering controls, 10 tons per year or more of any hazardous air pollutant or 25 tons per year or more of any combination of hazardous air pollutants." Based on the Administrator's determination, EPA may lower the major source cutoff for individual HAP. An area source is "any stationary source of hazardous air pollutants that is not a major source."

The Clean Air Act Amendments of 1990 prescribe an analytical framework that EPA is to apply in developing national emission standards for hazardous air pollutants (NESHAP) for major sources. A key concept in this framework is the establishment of emission standards based on the maximum achievable control technology (MACT). The amendments specify that NESHAP for existing sources are to be no less stringent (but may be more stringent) than the average emission limitation achieved by the best performing 12 percent of the existing sources in each category or subcategory of sources (i.e., the MACT floor). In categories or subcategories with less than 30 sources, the MACT floor is to be based on the average emission limitation achieved by the best performing 5 sources. The MACT floor for new sources is the emission control that is achieved in practice by the best controlled similar source.

A second key feature of the NESHAP development process is that of determining subcategories. The Clean Air Act Amendments allow the EPA Administrator to "distinguish among classes, types, and sizes of sources within a category or subcategory in establishing such standards" (Section 112(d)). The effect of this provision is that, for each category or subcategory for which EPA is developing NESHAP, the resulting standards can be tailored to account for significant differences in classes, types, and sizes of sources.

Explanation of Key Survey Sections and Questions

Section I. Instructions.

This section introduces the survey and defines the source category operations that are to be addressed in completing the survey. The engine test facilities source category includes any

facility engaged in the testing of uninstalled stationary and mobile engines, including turbines and reciprocating engines (excluding rocket motor/engine testing). Testing purposes include determining conformity with applicable standards and/or new product testing. The respondent is instructed that no additional emission testing or monitoring is required to respond to the survey. In those sections of the survey where process information is requested, respondents should indicate if their responses are design values, estimated values, or actual (measured) values. Also, if the answer to a survey question is unknown (UK), unavailable (UA), or not applicable (NA), respondents should state whichever of these is applicable, rather than leaving the survey block blank. The instructions provide an EPA contact for any questions on the part of the respondent as well as the address to which the completed survey should be mailed. Finally, the instructions direct the respondent to this attachment.

Section II. General Information.

This section of the survey is where the respondent, facility, and company are identified. Because of the complex relationships between and among corporations, the respondent is asked to distinguish between the legal owner and the legal operator. In some cases, one owner may sell or contract out a specific operation to another company, but continue to operate the facility. In this case, the legal owner information may be used in the EPA's economic analysis to distinguish small businesses.

Information on the legal operator, facility name, and technical contact is used by EPA to ensure that the facility is properly identified and that the appropriate contacts are available to answer any questions EPA might have on the completed survey.

Questions D and E relate to the major source status of the respondent. Respondents are asked to list their Title V classification, the basis for determining the Title V classification, and any co-located activities that influence the Title V status. In addition, respondents are requested to list any other MACT standards that are applicable to their facility or may be applicable at a later date. Minor sources are requested to give further explanation of their potential to emit or of permit limitations that limit operations below major source thresholds.

Question F on number of employees is asked so that EPA may identify small businesses. The Regulatory Flexibility Act (Public Law 96-354, September 19, 1980) requires consideration of the impacts of regulations on small businesses. The major purpose of the Act is to keep regulatory requirements from getting out of proportion to the scale of the businesses being regulated, without compromising the objectives of, in this case, the Clean Air Act. If a regulation is likely to have a significant economic impact on a substantial number of small businesses, EPA may give special consideration to those small businesses when analyzing regulatory alternatives and drafting a regulation. For producers and users of HAP, the Small Business Administration uses employment ranges to separate businesses into “large” and “small” categories. These employment ranges are substantially as given in Question F. (In any given situation, the actual cutoff between large and small will depend on the Standard Industrial Classification of the establishments in question. Furthermore, EPA sometimes finds that different employment ranges

or even other criteria are more suitable for the process of defining which businesses are large and which are small.

The respondent is also asked to provide the latitudinal and longitudinal coordinates of the facility. Sources of these data include EPA permits (e.g., Title V or NPDES permits), TRI Form R, county property records, facility blueprints, and site plans. Facility location information may be used if a risk analysis of the effects of HAP emissions on the surrounding populations is performed.

The Dun and Bradstreet Number (a 9-character facility ID number, which may be found on the facility TRI Form R), is requested for the legal owner of the facility (i.e., the corporation that owns the facility), and for the facility if the facility has a facility-specific Dun and Bradstreet Number. Providing a separate facility-specific Dun and Bradstreet Number is optional. This information will be used by the EPA in determining economic impacts of the engine testing standards.

Section III. Facility Operations and Schematics/Diagrams.

The purpose of this section is to obtain information on the type of engine testing and the relative magnitude of testing at each facility. The test cells listed in Table 1 will define the scope of the rest of the survey and ensure that consistent terminology is used throughout the survey. Information on the maximum test cell capacity (lb_f, bhp, kW), purpose of testing in the cell, and fuels used, may be used in making subcategory decisions. For example, these data are used in evaluating size distinctions, capabilities, and typical operation between test facilities.

The respondent is also asked to provide a process schematic or diagram for each engine test cell. All schematics or diagrams should be clearly labeled and legible, and multiple diagrams used to represent a single cell should show how each separate schematic or diagram fits into the engine test cell. The schematics/diagrams should identify all emission points. Identification numbers (ID Nos.) should be assigned to each test cell and used through the ICR. These ID Nos. are to be used in subsequent sections of the survey to avoid confusion about specific test cells and emission points. If available, diagrams from the facility's Title V permit application or other existing diagrams may be used, including “oversized” flow diagrams (i.e., flow diagrams on paper sized larger than 8.5 x 11 inches). For facilities with many cells, a generic schematic or diagram may be submitted, providing each cell listed in Table 1 is identified. Where no existing schematics or diagrams are available, hand-drawn diagrams may be provided to depict the test cells and stack emission points. The process flow diagrams are an essential tool for EPA to use in understanding how emissions data relate to facility-specific processes.

Table 1 requests specific information on engine testing at each test cell. In addition, Table 1 asks for information on pollution control equipment installed and, other than pollution control equipment, any process/operation controls used to minimize HAP exposure from engine testing.

Table 2 requests information on engine testing at each test cell. This table requests specific information on the type of engine tested and operating parameters. Where specific

information on engine testing is readily available, this information is to be included in Table 2. If no test-cell-specific information is available information for a group of cells or all cells at the facility should be provided. The purpose of Table 2 is to accurately characterize each test cell and to be able to determine baseline emissions from each engine test facility.

Table 3 requests information on the time of engine operation in each test cell. This information is necessary to gain an understanding of typical engine operation at test cells. If information is not readily available for each individual engine test cell, information for a group of test cells or for all test cells at the facility should be provided. If specific data engine operating time is not available, a qualitative description of engine operation at the facility should be provided in the space at the bottom of Table 3.

Tables 4 and 5 request information on air pollution control methods and control devices for each test cell. Table 4 requests information on the pre-air pollution control stream, and Table 5 requests information on the post-air pollution control stream. Table 6 is divided according to scrubber, incineration, and cyclone or other type of control method/device. Only the control methods/devices listed with unit operations in Tables 4 and 5 should be included in Table 6. If the facility uses a type of control device not listed in Table 6, the respondent should provide information on that device in the section of Table 6 listed as "Other Control Device."

Table 6 also asks the respondents for key design and operating parameters of emission control equipment. This information helps EPA to more accurately compare similar control devices. When completing Table 6, respondents are asked to provide actual operating parameters, if available. If actual operating parameters are not available, design values may be recorded and designated as such by adding the letter "D" (e.g., 10,000 acfm-D). Respondents are also asked to list the control device parameters that are monitored and the frequency with which these parameters are monitored; only those parameters that must be monitored by a State permit should be listed. This information is needed to determine both the current level of monitoring and the feasibility of specific monitoring requirements for this NESHAP.

Question III.F requests information on any emissions tests conducted for HAP's. A copy of the test report is not required at this time, but may be requested by EPA at a later date.

As with any section of the survey, if data requested in a table are already available in an alternative format (e.g., as sections/tables from a Title V permit application) that information can be attached in lieu of completing all or part of the table, as long as the attached information addresses all of the information requested in the table.

Section IV. Factors that Affect HAP Emission Reductions.

This section requests information that will help ensure that EPA considers source reduction measures, which reduce the amount of any HAP prior to recycling, treatment, or disposal, in establishing the MACT floor. Completing this section is voluntary. However, it is important to obtain information on source reduction measures because both the Clean Air Act and the Pollution Prevention Act of 1990 urge emission sources to adopt source reduction measures.

As a result, in order to determine MACT, EPA must obtain the data necessary to consider the viability and impacts of source reduction measures. Question A asks the respondent to describe any pollution reduction or source reduction measures adopted by the facility that have resulted in a decrease in emissions since 1987.

Section V. Miscellaneous.

The purpose of this section is to gather information that otherwise might not be revealed in the previous sections, but which could impact selection of subcategories, emission estimates, and MACT selection. The first question asks the respondent whether the controls or process changes on the source discussed in section IV are the result of new source review (NSR) requirements. Sources subject to the lowest achievable emission rate (LAER) requirements of the NSR program must be excluded from the MACT floor calculation under Section 112(d)(3)(A) for existing sources if LAER is achieved 18 months before the emissions standard is proposed or within 30 months before such standard is promulgated, whichever is later. The second question asks the respondent to describe any other factors, not addressed in the survey, that might serve to distinguish his facility from others in this source category.

List of Acronyms and Unit Abbreviations.

Acronym/ Abbreviation	Description
µm	Micrometers (10^6 micrometer = 1 meter)
acfm	Actual cubic feet per minute
acfm @ __ ^oF	Actual cubic feet per minute at <you specify temperature> degrees Fahrenheit
CBI	Confidential Business Information
d	Day
dscf	Dry standard cubic feet per minute
EPA	U. S. Environmental Protection Agency
ft	Feet
ft^3	Cubic feet
g/cm^3	Grams per cubic centimeter
gal/10^3 acfm	Gallon(s) per 1,000 actual cubic feet per minute
gal	Gallon(s)
gr	Grains (7,000 grains = 1 pound)
HAP	Hazardous air pollutant
hr	Hour(s)
ID (ID No.)	Identification number
in.	Inch(es)
in. H_2O	Inches of water column
ICR	Information collection request
LAER	Lowest achievable emission rate
lb	Pound(s)
MACT	Maximum achievable control technology
mg/L	Milligrams per liter
NESHAP	National emission standards for hazardous air pollutants
NO_x	Nitrogen oxides
NSR	New source review
^oF	Degrees Fahrenheit
OMB	U. S. Office of Management and Budget
PM	Particulate matter

PM_{10}	Particulate matter less than 10 microns in diameter
ppmv	Parts per million (volume basis)
RCRA	Resource Conservation and Recovery Act
sec (s)	Second(s)
SF (ft^2)	Square feet
SIC	Standard Industrial Classification
ton	Ton (2,000 pounds = 1 ton)
TRI	Toxic Release Inventory
WS	Wet scrubber
yr	Year

APPENDIX A

HOW TO DETERMINE LATITUDE AND LONGITUDE FROM TOPOGRAPHIC MAPS

Latitude is the distance north or south of the equator. Longitude is the distance east or west of the prime meridian (Greenwich, England). Latitude and longitude are measured in seconds, minutes and degrees.

60" (seconds) = 1' (minute)
60' (minutes) = 1° (degree)

To determine the latitude and longitude of your facility you will need the following:

- topographic map from United States Geological Survey (USGS)
- ruler graduated in decimal units (cm or inches)
- pencil
- small calculator (optional).

How to Obtain USGS Maps-

USGS maps used for determining latitude and longitude may be obtained from one of two distribution centers. These maps are available in both of the 7.5 minute and 15 minute series. For areas east of the Mississippi River, including Minnesota, Puerto Rico, and the U.S. Virgin Islands, contact:

Branch of Distribution
U.S. Geological Survey
Reston, VA 22092

For areas west of the Mississippi, including Alaska, Hawaii, Louisiana, American Samoa and Guam, contact:

Branch of Distribution
U. S. Geological Survey
Box 25286 Federal Center
Denver, CO 80225

If you are not sure of the map on which your site is located, USGS will provide a free index to topographic maps for your state. USGS maps cost about $3.00 and are often available in local libraries and at commercial dealers such as surveyors or outdoor recreation equipment dealers. The index for your state will list these alternative sources for obtaining maps.

Determining Your Facility's Latitude and Longitude
(See diagram next page.)
Once you have obtained the correct map for your facility you should follow these steps:

1. Mark the location of your facility on the map with a point. If your facility is large, choose a point central to the production activities of the facility. If certain structures in your facility are represented on the map, mark one of the structures with a point.

2. Construct a small quadrangle (a four-sided figure) around the point with fine pencil lines connecting the nearest 2 ½' or 5' graticules. Graticules are intersections of latitude and longitude lines that are marked on the map edge, and appear as black crosses at four points in the interior of the map.

3. Read and record the latitude and longitude for the southeast corner of the small quadrangle drawn in step two. The latitude and longitude are written at the edges of the map.

4. To determine the increment of latitude above the latitude line recorded in step 3,

- position the map so that you face its west edge;
- place the ruler in approximately a north-south alignment with the "0" on the latitude line recorded in step 3 and the edge intersecting the point.

Without moving the ruler, read and record:

- the measurement from the latitude line to the desired point (the point distance);
- the measurement from the latitude line to the north line of the small quadrangle (the total distance).

Determine the number of seconds to be added to the latitude recorded in step 3 by using the ratio:

$$\left(\frac{\text{Point distance}}{\text{Total distance between lines}}\right) \times 150'' = \text{increment of latitude}$$

(Note: 150" is the number of seconds of arc for the side of the small quadrangle on a 7.5' map. If you are using a 15' map then the multiplication factor is 300" instead of 150" since each graticule is 5' of latitude and longitude.)

For example:

Point distance = 99.5
Total distance = 192.0

$\frac{99.5}{192.0} \times 150'' = 77.7''$ = 01' 17.7"

(60" = 1'; 77.7" - 60" = 01' 17.7")

Latitude in step 3:	32° 17' 30.0"
Increment:	+ 01' 17.7"
Latitude of point:	32° 18' 47.7"

to the nearest second = 32° 18' 48.0"

5. To determine the increment of longitude west of the longitude line recorded in step 3,

- position the map so that you face its south edge;
- place the ruler in approximately an east-west alignment with the "0" on the longitude line recorded in step 3 and the edge intersecting the point.

Without moving the ruler, read and record:

- the measurement from the longitude line to the desired point (the point distance);
- the measurement from the longitude line to the west line of the small quadrangle (the total distance).

Determine the number of seconds to be added to the longitude recorded in step 3 by using ratio:

$$\left(\frac{\text{Point distance}}{\text{Total distance between lines}}\right) \times 150'' = \text{increment of longitude}$$

For example:

Point distance = 65.0
Total distance = 149.9

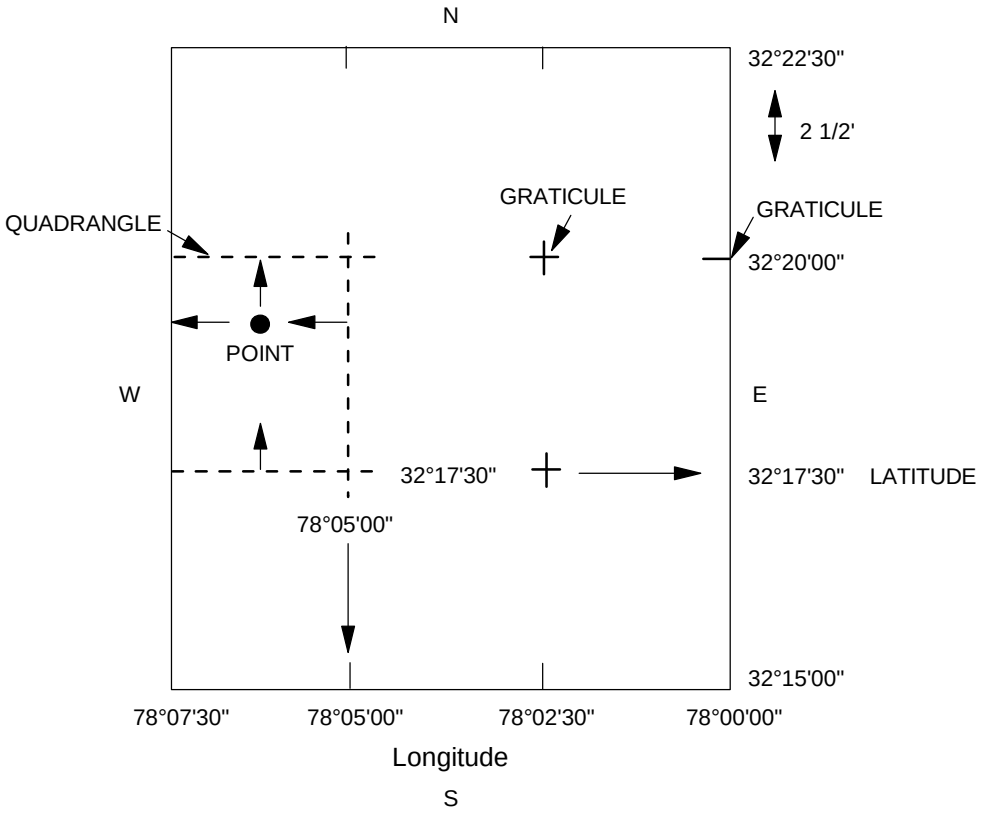
$$\frac{65.0}{149.9} \times 150'' = 66.4'' = 01'06.4''$$

(60" = 1'; 66.4" - 60" =01' 06.4")

Longitude in step 4:	78E 05' 00.0"
Increment:	+ 01' 06.4"
to the nearest second	= 78E 06' 06"

Note: This diagram is based on a USGS 7.5 Minute Series Topographic Map.
Not drawn to scale.

Latitude/Longitude Diagram



Point: Latitude 32°18'48" North
Longitude 78°06'06" West

Note: This diagram is based on a USGS 7.5 Minute Series Topographic Map.
Not drawn to scale.